

Message Text

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ACTION OES-06

INFO OCT-01 EA-09 ISO-00 ACDA-10 CIAE-00 INR-07 IO-13 L-03

NSAE-00 NSC-05 EB-07 NRC-07 FEAE-00 DODE-00 /068 W

----- 101651

R 140741Z SEP 76

FM AMEMBASSY TOKYO

TO USERDA WASHDC

USERDA GERMANTOWN

INFO SECSTATE WASHDC 2236

UNCLAS TOKYO 13801

ERDA FOR DR. JACK VANDERRYN, DR. WALTER WEYZEN

STATE FOR OES/NET

E.O. 11652: N/A

TAGS: TPHY, TBIO, JA

SUBJECT: SMALL CYCLOTRON FOR MEDICAL ISOTOPE PRODUCTION

1. DURING DR. WEYZEN'S STAY IN JAPAN, HE EXPRESSED INTEREST IN WHAT JAPANESE ARE DOING IN WAY OF DEVELOPING SMALL CYCLOTRONS FOR PRODUCTION OF SHORT-LIVED RADIOISOTOPES USED IN MEDICAL DIAGNOSIS.
2. SUCH A MACHINE IS IN FINAL STAGES OF DEVELOPMENT. GOJ INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH IS SPONSORING AGENCY. FABRICATOR IS JAPAN STEEL WORKS, AND MACHINE IS BEING ASSEMBLED AT MURORAN PLANT OF JSW IN HOKKAIDO. IDX CORPORATION IS INVOLVED WITH ELECTRICAL DESIGN, AND TOKYO ELECTRON LABORATORIES IS SUBCONTRACTOR FOR RF OSCILLATOR.
3. PROTOTYPE MACHINE, CALLED "BABY", IS AT STAGE OF ION INJECTION AND ACCELERATION TESTING. JSW STATES THAT IT IS TOO EARLY TO GIVE INFORMATION ON COMMERCIAL PRICE BUT HOPES TO HAVE THIS INFO BY END OF YEAR.

4. GENERAL FEATURES OF MACHINE:

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A. BEAM CHARACTERISTICS

PROTONS 9.4 MEV, 100 MICROAMPS
DEUTERONS 4.7 MEV, 100 MICROAMPS
HELIUM-3 12.5 MEV, 50 MICROAMPS
ALPHAS 9.4 MEV, 50 MICROAMPS

B. DIMENSIONS

OVERALL WEIGHT 8 TONS
MAGNET OUTSIDE DIAMETER 1.5 METERS
OVERALL HEIGHT 2.5 METERS

C. ELECTRICAL AND MAGNET CHARACTERISTICS

MAGNET FACE DIAMETER 60 CM
MAIN COIL POWER 30 KWDC
RF INPUT POWER 20 KW MAX
RF FREQUENCY 56 AND 38 MHZ
MAGNET DESIGN RADIAL RIDGE, FOUR-SECTOR;
SECOND AND FOURTH HARMONIC ACCELERATION
FIELD STRENGTH 23 KILOGAUSS

4. FURTHER DETAILS, INCLUDING DRAWINGS, MAGNETIC FIELD
CHARACTERISTICS, VACUUM SYSTEM DETAILS, ETC., ARE IN JSW
TECHNICAL REPORT. COPY BEING POUCHED TO WEYZEN.

5. JSW CHIEF METALLURGIST, KIYOZO SAKABE, TOLD ERDA TOKYO
LOCAL EMPLOYEE THAT PAPER ON THIS MACHINE WILL BE GIVEN AT
INTERNATONAL CONFERENCE TO BE HELD AT BROOKHAVEN ON SEPT. 21.
SHOESMITH

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NNN

Message Attributes

Automatic Decaptioning: X
Capture Date: 01 JAN 1994
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: MEDICAL CARE, EQUIPMENT, RESEARCH
Control Number: n/a
Copy: SINGLE
Draft Date: 14 SEP 1976
Decaption Date: 01 JAN 1960
Decaption Note:
Disposition Action: n/a
Disposition Approved on Date:
Disposition Authority: n/a
Disposition Case Number: n/a
Disposition Comment:
Disposition Date: 01 JAN 1960
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1976TOKYO13801
Document Source: CORE
Document Unique ID: 00
Drafter: n/a
Enclosure: n/a
Executive Order: N/A
Errors: N/A
Film Number: D760346-0531
From: TOKYO
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1976/newtext/t19760960/aaaabzsv.tel
Line Count: 89
Locator: TEXT ON-LINE, ON MICROFILM
Office: ACTION OES
Original Classification: UNCLASSIFIED
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 2
Previous Channel Indicators: n/a
Previous Classification: n/a
Previous Handling Restrictions: n/a
Reference: n/a
Review Action: RELEASED, APPROVED
Review Authority: vandyklc
Review Comment: n/a
Review Content Flags:
Review Date: 02 FEB 2004
Review Event:
Review Exemptions: n/a
Review History: RELEASED <02 FEB 2004 by MaustMC>; APPROVED <01 SEP 2004 by vandyklc>
Review Markings:

Margaret P. Grafeld
Declassified/Released
US Department of State
EO Systematic Review
04 MAY 2006

Review Media Identifier:
Review Referrals: n/a
Review Release Date: n/a
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
Secure: OPEN
Status: NATIVE
Subject: SMALL CYCLOTRON FOR MEDICAL ISOTOPE PRODUCTION
TAGS: TPHY, TBIO, JA
To: ERDA
Type: TE
Markings: Margaret P. Grafeld Declassified/Released US Department of State EO Systematic Review 04 MAY 2006